UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,617	12/30/2003	Nikolai G. Nikolov	6570P041	9855

45062   7590   09/08/2008
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EXAMINER
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ART UNIT	PAPER NUMBER
2192	

MAIL DATE	DELIVERY MODE
09/08/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE __03__ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _09 July 2008_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-11,13-28 and 30-34_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-11,13-28 and 30-34_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _30 December 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _07/09/08_.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1. This action is responsive to the amendment filed on July 9, 2008.

2. Claims 1-11, 13-18, and 30-34 have been examined.

Response to Amendments

3. In the instant amendment, claims 1, 11, 18, and 28 have been amended.

Claim Objections

4. In the previous Office action mailed April 9, 2008, page 2, claims 1 and 18 were objected to because of minor informalities. Claims 1 and 18 recite the limitation "a plug-in module" and "said plug-in module" (e.g., claim 1, lines 8-9 and 9-10, respectively). However, other locations merely recite limitations "said plug-in". Accordingly, all limitation "plug-in" is considered to read as - -plug-in module- -.

     Appropriate correction is requested.

Response to Arguments

5. Applicant's arguments with respect to the rejection(s) of claim(s) 1-11, 13-28, and 30-34 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of US Patent Publication 2004/0123279 A1 and APA as set forth in details below.

Claim Rejections – 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-3, 5-11, 13-20, and 22-28, and 30-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Publication No. 2004/0123279 A1 to Boykin et al. (art of record but not previously applied, hereafter "Boykin") in view of APA (art of record, Admitted Prior Art).

Claim 1:

Boykin discloses an article of manufacture and *a method, comprising: in an object oriented run-time environment, after a classfile has been loaded* (e.g., FIG. 4B, JVM 402, Class Loader 404; FIG. 11A, instrumented method is called/loaded at step 1102, [0067])

a) a first method instrumented with bytecode (e.g., Table 9, lines 1-5, "read" method instrumented with bytecode, i.e., "read(buf, off, len)" as a first method, reading up to "len" bytes of data from the input stream into an array of bytes "buf"; FIG. 7, blocks 704-708, [0050])

invoking a second method from the first method instrumented (e.g., Table 9, line 12, "hooks.pre(imc)" as a second method),

said first method belonging to said classfile (e.g., Table 9, lines 1-5, "read" method belongs to classfile "SocketInputStream"; after being instrumented, "read" has been renamed to "original0read" as in line 2),

said invoking comprising providing an identification of said first method and said classfile (e.g., Table 9, line 12, invoking second method "hooks.pre(imc)", wherein "imc" comprises identification of "read" method and "com.ibm.net. SocketInputStream.class", see lines 7-10),

said second method belonging to a dispatcher (e.g., Table 9, line 12, "hooks.pre(imc)" belongs to a dispatcher IHooks, see line 6, JVM 402 in FIG. 4B),

said classfile having previously registered with said dispatcher (e.g., FIG. 7, blocks 704-706, classfile "SocketInputStream" has been previously instrumented/registered with said dispatcher "IHooks"/JVM 402, see FIG. 8, blocks 802-804);

b) said dispatcher performing said second method to identify a plug-in module for said first method based upon said identification (e.g., Table 9, line 12, performing the second method "hooks.pre(imc)"; Table 5, details of "hooks.pre(mic)", wherein "hooks.pre(imc)" returns an identifier "handle" in line 14; Table 9, line 20, said identifier "handle" identifies a specific plug-in module "hooks.post(handle, new Integer(returnValue)"),

said plug-in module to implement a handler method (e.g., Table 9, line 20, said plug-in module "hooks.post(handle, new Integer(returnValue))"; Table 6, details of said plug-in module "hooks.post", wherein said plug-in module "hooks.post" to implement a handler method "probe.post(probeContext)", see lines 4-8),

said dispatcher returning to said first method an identifier of said plug-in module (e.g., Table 9, line 12, "hooks.pre(imc)", which belongs to dispatcher IHooks/JVM 402; Table 5, details of "hooks.pre(imc)", which returns to said first method "read" an identifier "handle" in line 14; Table 9, line 20, said identifier "handle" identifies a specific plug-in module "hooks.post(handle, new Integer(returnValue))"),

said identifier not being a Boolean value representative of one of only two possible states (e.g., Table 5, line 14, returning said identifier "return handle"; and line 2, said identifier "handle" belongs to class "IProbeHandle", which is not a Boolean value/class);

c) using said identifier to directly invoke said plug-in module to execute said handler method to report and/or record information about said first method (e.g., Table 9, line 12, receiving said identifier "handle"; line 20, using said identifier "handle" to invoke "hooks.post(handle, new Integer(returnValue))"; Table 6, details of "hooks.post", wherein "hooks.post" executes said handler method "probe.post(probeContext)" in line 8; Table 12, details of the handle method "probe.post", which calculates/reports transfer rate about the first method "read" method)

d) executing said first method from a point beyond where said second method was invoked (e.g., Table 9, executing said first method "read" at line 15, which

is from a point beyond line 12, the point where said second method "hooks.pre(imc)" was invoked),

e) *a third method* (e.g., Table 9, "read(buf2, off2, len2) as a third method, i.e., reading up to "len2" bytes of data from the input stream into an array of bytes "buf2");

f) *invoking said second method from said third method* (e.g., Table 9, line 12, "hooks.pre(imc)" as a second method),

said invoking comprising providing an identification of said third method and a second classfile that said third method is a part of (e.g., Table 9, line 12, invoking second method "hooks.pre(imc)", wherein "imc" comprises identification of "read" method and "com.ibm.net. SocketInputStream.class", see lines 7-10),

said second classfile having been loaded and said third method instrumented with bytecode at least by the completion of e) above (e.g., FIG. 4B, JVM 402, Class Loader 404; FIG. 11A, instrumented method is called/loaded at step 1102, [0067]),

said second classfile having previously registered with said dispatcher (e.g., FIG. 7, blocks 704-706, classfile "SocketInputStream" has been previously instrumented/registered with said dispatcher "IHooks"/JVM 402, see FIG. 8, blocks 802-804);

g) *said dispatcher performing said second method to identify said plug-in module for said third method based upon said third method and second classfile identification* (e.g., Table 9, line 12, performing the second method "hooks.pre(imc)"; Table 5, details of "hooks.pre(mic)", wherein "hooks.pre(imc)" returns an identifier "handle" in line 14; Table 9, line 20, identifier "handle" identifies a specific plug-in module "hooks.post(handle, new Integer(returnValue)")

said dispatcher returning to said third method said identifier of said plug-in module (e.g., Table 9, line 12, "hooks.pre(imc)", which belongs to dispatcher

IHooks/JVM 402; Table 5, details of "hooks.pre(imc)", which returns to said third method "read" an identifier "handle" in line 14; Table 9, line 20, said identifier "handle" identifies a specific plug-in module "hooks.post(handle, new Integer(returnValue))")

h) using said identifier to directly invoke said plug-in module from said third method to execute said handler method to report and/or record information about said third method (e.g., Table 9, line 12, receiving said identifier "handle"; line 20, using said identifier "handle" to invoke "hooks.post(handle, new Integer(returnValue))"; Table 6, details of "hooks.post", wherein "hooks.post" executes said handler method "probe.post(probeContext)" in line 8; Table 12, details of "probe.post", which calculates/reports transfer rate about the "read" method)*; and*

i) executing a portion of said third method from a point beyond where said second method was invoked from said third method (e.g., Table 9, executing said third method "read" at line 15, which is from a point beyond line 12, the point where said second method "hooks.pre(imc)" was invoked).

Boykin does not explicitly disclose *flowing from said first method to a third method; said second classfile having been loaded at least by the completion of said flowing from said first method to said third method.*

However, in an analogous art, APA further discloses*:*

after a classfile has been loaded (e.g., [0005-0006])*:*

invoking a second method from a first method; said first method belonging to said classfile (e.g., FIG. 1D, [0012-0014], first method as method_1 205 belonging to classfile object_1 201)*;*

flowing from said first method to a third method (e.g., a third method as either method_2 206, method_3 207, or method_4 208, [0010-0012])*;*

a second classfile that said third method is a part of (e.g., still FIG. 1d, each third method is a part of a corresponding classfile, [0007-0009])*;*

said second classfile having been loaded at least by the completion of said flowing from said first method to said third method (e.g., [0011], [0014-0018]).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine APA's teaching into Boykin's teaching. One would have been motivated to do so to apply prior art runtime flow as suggested by APA (e.g., [0014], [0005-0006]) and calculate/report transfer rate in different contexts as suggested by Boykin (e.g., Table 12, lines 5-25 and Table 9, lines 7-12).

Claim 2:

The rejection of claim 1 is incorporated. Boykin also discloses *said executing of said handler method at c) above causes an entry time for said first method to be recorded* (e.g., [0067]-[0068]).

Claim 3:

The rejection of claim 1 is incorporated. Boykin also discloses *said executing of said handler method at c) above causes an exit time for said first method to be recorded* (e.g., FIG. 11A, step 1102, [0067]).

Claim 5:

The rejection of claim 1 is incorporated. Boykin also discloses *said executing of said handler method at c) above causes an input parameter value of said first method to be recorded* (e.g., FIG. 11A, step 1120, [0068]).

Claim 6:

The rejection of claim 1 is incorporated. Boykin also discloses *said executing of said handler method at c) above causes a returned value of said first method to be recorded* (e.g., [0071]-[0075]).

Claim 7:

The rejection of claim 1 is incorporated. Boykin also discloses *said first method is a constructor* (e.g., Table 10, [0076]-[0077]).

Claim 8:

The rejection of claim 1 is incorporated. Boykin also discloses *creating, prior to said invoking at a) above, an object having an input parameter value of said first method* (e.g., [0074]-[0076]).

Claim 9:

The rejection of claim 1 is incorporated. Boykin also discloses *said invoking at a) above further comprises providing an input parameter value of said first method* (e.g., Table 8-9).

Claim 10:

The rejection of claim 1 is incorporated. Boykin also discloses *said invoking at a) above further comprises identifying where said first method's instructions can be found in memory* (e.g., FIG. 4B, [0044]-[0046]).

Claim 11:

The rejection of claim 1 is incorporated. Boykin also discloses *after said executing said first method from a point beyond where said second method was invoked but before said flowing to said third method at e) above,*

invoking a fourth method from said first method because said first method is about to reach an exit point, said second method having been invoked from said first method because an entry point of said first method had just been reached, said dispatcher having said fourth method (e.g., [0023]-[0026]);

re-identifying said plug-in module for said first method as a consequence of said invoking a fourth method (e.g., [0028]-[0030]);

re-executing said handler method to report and/or record information about said first method; and executing a remaining portion of said first method through said exit point (e.g., [0029]-[0032]).

Claim 13:

The rejection of claim 1 is incorporated. Boykin also discloses *identifying a second plug-in module for said third method based upon said third method and second classfile identification, said second plug-in module containing a second handler method* (e.g., [0045]-[0049]).

Claim 14:

The rejection of claim 13 is incorporated. Boykin also discloses *executing said second handler method to report and/or record different information about said third method than what said first handler method reports and/or records about said third method* (e.g., [0052]-[0056]).

Claim 15:

The rejection of claim 14 is incorporated. Boykin also discloses *a first object is called to execute said first method and a second object is called to execute said fourth method* (e.g., [0048]-[0052]).

Claim 16:

The rejection of claim 15 is incorporated. Boykin also discloses *said object oriented run-time environment is a Java object oriented environment* (e.g., [0063]-[0069]).

Claim 17:

The rejection of claim 1 is incorporated. Boykin also discloses *said invoking at a) above further comprises providing said first method's signature* (e.g., [0059]-[0061]),

said first method's signature comprising: said identification of said first method; said identification of said class that said first method is a part of; and said first method's arguments (e.g., [0072]-[0078]).

Claims 18-20, 22-28, and 30-34:

Claims 18-20, 22-28, and 30-34 recite the same limitations as those of claims 1-3, 5-11, and 13-17, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 18-20, 22-28, and 30-34.

12. Claims 4 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boykin, APA, and further in view of Hibbeler (art of record, US Patent No. 7,093,234 B2).

Claim 4:

The rejection of claim 1 is incorporated. Neither Boykin nor APA explicitly disclose *said executing of said handler method at c) above causes a counter maintained for said first method to be incremented.*

However, in an analogous art, Hibbeler further discloses *said executing of said handler method causes a counter maintained for said first method to be incremented* (e.g., col.8: 6-10).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teaching of Hibbeler into that of Boykin and APA. One would have been motivated to do so to profile suspected hot spots or bottlenecks in the target application as suggested by Hibbeler (e.g., col.3: 11-35).

Claim 21:

The rejection of claim 18 is incorporated. Claim 21 recites the same limitations as those of claim 4, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claim, it also teaches all of the limitations of claim 21.

Conclusion

8. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication should be directed to examiner Thuy Dao (Twee), whose telephone/fax numbers are (571) 272 8570 and (571) 273 8570, respectively. The examiner can normally be reached on every Tuesday, Thursday, and Friday from 6:00AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam, can be reached at (571) 272 3695.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is (571) 272 2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Thuy Dao/   /Tuan Q. Dam/

Examiner, Art Unit 2192   Supervisory Patent Examiner, Art Unit 2192